Washington State Department of Health

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Brief: Commercial Low-Level Radioactive Waste Disposal Facility Draft Environmental Impact Statement

Introduction

The Washington State Departments of Health (WDOH) and Ecology (WDOE) have issued a Draft Environmental Impact Statement (DEIS) for the commercial low-level radioactive (LLRW) waste disposal site near Richland, Washington. The public, agencies, jurisdictions and the tribes are invited to comment on the three pending actions evaluated in the DEIS. The three pending actions are:

1. Renewal of the US Ecology, Inc. Washington State Radioactive Materials License to operate the commercial LLRW disposal site.

2. Amendment of Chapter 246-249 WAC (Washington Administrative Code) establishing a 100,000 cubic foot per year limit for diffuse naturally occurring or accelerator produced radioactive material (NARM) disposed at the commercial LLRW disposal site.

3. Approval of the July 1996 *Site Stabilization and Closure Plan* submitted by US Ecology, Inc to close the site in the year 2056.

The three pending actions may affect your interests concerning radioactive waste disposal in Washington State. These interests may include long-term public health risk, environmental impacts, worker safety, the importation of radioactive wastes into Washington State, potential impacts from past disposal of chemical wastes, the transportation of radioactive waste, disposal of United States Department of Energy (USDOE) wastes including wastes from the Fast Flux Test Facility, the application of the State's Model Toxics Control Act, socioeconomic impacts in the Tri-Cities, and cumulative effects to the Columbia River.

Please see the back page for hearing dates and locations, comment period, how to get a copy of the DEIS, and who to contact for more information. **The Departments of Health and Ecology encourage all interested persons to provide comments on the potential impacts and benefits of the three pending actions.**

Background

The commercial LLRW disposal site is located near the center of the 560 square mile United States Department of Energy (USDOE) Hanford Site (Hanford) on approximately 100 acres of federal land leased to the state of Washington. Although the commercial LLRW disposal site is located at Hanford, it is a licensed state facility and is not operated or regulated by USDOE.

The commercial LLRW disposal site has been in operation since 1965 and is currently operated by US Ecology, Inc. (US Ecology). The site uses shallow land burial of packaged and stabilized waste into large, unlined trenches. Waste types disposed at the site include low-level radioactive, NARM, nonradioactive hazardous and mixed waste (radioactive waste having a hazardous component). Since 1985, only low-level radioactive waste and NARM have been allowed for disposal. An average of less than 150,000 cubic feet per year of low-level radioactive waste is currently disposed at the site. The majority of the volume of LLRW waste disposed at the site is from industrial users although other sources include nuclear power plants, public agencies, academic institutions, and the medical community. Low-level waste can include both low and high activity wastes. The majority of high activity waste disposed at the site is from nuclear power plants. The low activity wastes include trash, clothing, tools, hardware, and equipment that have been contaminated by radioactive substances.

Although the commercial LLRW disposal site is permitted to dispose of 100,000 cubic feet per year of diffuse NARM, the site currently receives an average of less than 30,000 cubic feet per year. Diffuse NARM waste includes phosphate ore, mineral-processing waste, coal ash, phosphate fertilizers, geothermal waste, and oil and gas extraction by-products.

Washington is the host state for the Northwest LLRW Compact. The compact includes the states of Washington, Alaska, Hawaii, Idaho, Montana, Oregon, Wyoming and Utah. Beginning in 1993, the Northwest Compact exercised its authority to prevent non-member states from sending their LLRW to the site. Through formal agreement with the Rocky Mountain Compact, the Northwest Compact also allows Nevada, Colorado, and New Mexico limited use of the site. The Northwest Compact does not exercise exclusionary authority over NARM. As a result, receipt of NARM waste is not limited to the Northwest and Rocky Mountain regions. One foreign shipment of NARM waste has been received at the site. On August 1, 2000 US Ecology notified the State that they would not accept any future foreign NARM shipments at the site.

Generally, LLRW waste from USDOE operations has not been disposed at the commercial LLRW disposal site. However, very small amounts of radium and thorium in sealed sources from non-Hanford sites have been disposed of at the facility. Recently, USDOE has stated a preference for disposing of waste from the Fast Flux Test Facility (FFTF) in a commercial LLRW disposal site if FFTF were to be restarted. Currently, the only sites licensed to accept this type of waste are the Richland site and the commercial LLRW disposal site in South Carolina. The Northwest Compact is under no obligation to accept USDOE waste at the Richland commercial LLRW disposal site. If USDOE proposes use of the US Ecology site, it would need to notify the Northwest Compact. In addition, USDOE would need to obtain a Site Use Permit from the Department of Ecology and the Department of Health would need to ensure the USDOE waste met the Site License requirements.

A recent site investigation at the commercial LLRW disposal site sampled the vadose zone and groundwater for hazardous constituents and radionuclides. Results from the site investigation indicate there is no existing public health risk from the commercial LLRW disposal site. However, low concentrations of hazardous constituents and radionuclides were detected below the waste trenches and in the groundwater.

Scope of the DEIS

The DEIS evaluates the public health and environmental impacts of the three pending actions and alternatives to those actions. The DEIS does not evaluate political issues related to the use of the commercial LLRW disposal site including the disposal of USDOE waste or the acceptance of foreign NARM waste.

Section 4.0 of the DEIS discusses public health impacts from the three pending actions. Public health impacts for both adults and children were based on the type and activity ("source term") of waste disposed at the site. This source term is used to predict potential health impacts incurred from exposure to the site. For radionuclides, public health impacts are measured by a person's "dose" in units of millirems per year. Computer modeling predicted that there are eight radionuclides that could contribute to a future dose, within 10,000 years, to both the Native American and rural resident individual. The nuclides are Carbon 14, Chlorine 36, Tritium, Iodine 129, Technetium 99, Uranium 235 and 238 and Radium 226.

Twenty-five millirem per year is the regulatory standard for a closed commercial LLRW disposal site. Closure of the site is predicted to result in doses to individuals living adjacent to the closed commercial LLRW disposal site of less than 25 millirem per year. The DEIS found that relicensing the site would contribute only a minor amount to this dose. In other words, there is only a small increase in dose if the site is closed in 2056 rather than now. In the DEIS, the predicted doses were used to hypothesize a lifetime cancer risk for a person living adjacent to the commercial LLRW disposal site. The predicted lifetime fatal cancer risk ranges from 1 in 1000 to 4 in 100,000 persons depending on how the site is closed. The predicted risk for 10,000 years is highly uncertain and is only included to compare relative risks of the alternatives. The predicted risk in the DEIS is not meant to represent the actual risk of closing the site but is a tool to evaluate the pending actions.

DEIS Pending Actions and Alternatives

Several alternatives have been identified for each pending action. The purpose of the alternatives is to provide a comparison with the pending action in terms of public health risk, environmental impacts, and other considerations.

License Renewal

As the operator of the commercial LLRW disposal site, US Ecology is required to have a Radioactive Materials License that is subject to renewal every five years. The DEIS examines two alternatives to renewing the Site License. The first, the "No-Action Alternative", denies the license renewal and closes the commercial LLRW disposal site. The second alternative, called the Enhanced Relicensing Alternative, renews the Site License with operational enhancements designed to further protect public heath, worker safety, and the environment. As a result of the DEIS analysis, both the Pending Action and the Enhanced Relicensing Alternative will include source term limits in the Site License for the eight radionuclides identified as contributing to dose after the site is closed. These source term limits will allow the State to control, based on public health, the amounts and type of waste received at the site.

NARM Acceptance

The second pending action would adopt in the Washington Administrative Code an upper limit of 100,000 cubic feet per year for diffuse NARM. Currently, the 100,000 cubic foot per year limit is in effect because of a settlement agreement between US Ecology and the WDOH. There are two alternatives to the pending action. The No Action Alternative would reinstate the previous limit of 8,600 cubic feet per year on NARM. A second alternative, based on past NARM disposal volumes, would set the limit at 36,700 cubic feet per year.

Site Closure

The pending action and all closure alternatives propose to close the site by leaving the waste in place and constructing a cover over the entire site. The DEIS divides site closure into two parts, cover design

and closure schedule. The pending action is the approval of a cover design and closure schedule proposed by US Ecology in the 1996 *Site Stabilization and Closure Plan*. The cover was designed in coordination with the Departments of Health and Ecology. It is a multi-layer design, approximately 16 feet thick, with a 12-inch thick bentonite clay low-permeability barrier. There are several alternatives to the proposed US Ecology cover design. The alternatives range from using a simple site soils cover to cover designs that use asphalt and large amounts of silt loam. Each of the cover designs was evaluated for their ability to minimize future public health risk and environmental impacts from the commercial LLRW disposal site.

The US Ecology schedule for closing the site includes near-term final closure of seven waste trenches and the remainder of the trenches in the year 2056. Alternatives to the pending action range from no closure of trenches until 2056 to closing all trenches as soon as they are filled.

Public Involvement

The public comment period begins September 25, 2000. Comments must be received or postmarked no later than November 30, 2000 (a three-week extension of the original comment period). Please provide comments to Nancy Darling, Project Manager, at Washington State Department of Health, Division of Radiation Protection, Mail Stop 47827, Olympia, WA 98504-7827 or e-mail them to nancy.darling@doh.wa.gov.

Three public hearings will be held and will include brief presentations and an opportunity for question and answers before formal comments are given. Dates and locations are listed below.

Bellevue, WA	Kennewick, WA	White Salmon, WA
7:00 p.m., October 23, 2000	7:00 p.m., October 24, 2000	7:00 p.m., November 14, 2000
Conference Room 1	Conference Room 4	Park Center Auditorium
Department of Ecology	Department of Ecology	170 NW Lincoln Street
Northwest Regional Office	Nuclear Waste Program	
3190 - 160th Avenue SE	1315 W 4th Avenue	

The public may view copies of the DEIS at the following locations:

Internet:
Department of Health Radiation Protection Division: http://www.doh.wa.gov/ehp/rp/
Department of Ecology, Nuclear Waste Program: http://www.ecy.wa.gov/programs/nwp/

Libraries:
Portland: Portland State University, Branford Price Millar Library, Science and Engineering
Seattle: University of Washington, Suzzallo Library, Government Publications Room
Spokane: Gonzaga University, Foley Center, East 502 Boone
Richland: Washington State University at Tri-Cities, Consolidated Information Center

For more information, please contact Nancy Darling, WDOH, (360) 236-3244, Nancy.Darling@doh.wa.gov or Larry Goldstein, WDOE (360) 497-6573, lgol461@ecy.wa.gov. To receive a copy of the DEIS, please contact Kristin Felix, WDOH, (360) 236-3240, Kristin.Felix@doh.wa.gov.